

What is claimed is:

1. A filter element for use in a waste water discharge system, the filter element comprising: an axial support of a pre-selected length, a handle fixed to the axial support facilitating the placement and withdrawal of the filter element,
5 and a plurality of bristles fixed to and extending radially outward from the axial support to an outer margin, the outer margin of the bristles defining a substantially continuous surface generally symmetric about the axial support, the outer margin including a plurality of portions defining a first selected radius of the filter element, at least two of the plurality of portions being separated by an
10 intermediate portion wherein the bristles terminate short of the first selected radius.
2. The filter element of claim 1 wherein the axial support comprises a spiral wound set of wires, the bristles being captured between the set of wires.
3. The filter element of claim 1 wherein the handle comprises a unitary
15 extension of the axial support.
4. The filter element of claim 3 wherein the handle extends radially to only one side of the axial support.
5. The filter element of claim 4 wherein the handle includes a terminal portion extending parallel to the axial support at a position separated from the
20 axial support by a distance greater than said first selected radius.
6. The filter element of claim 1 wherein the bristles are straight.
7. The filter element of claim 1 wherein the bristles are crimped or convoluted.
8. The filter element of claim 1 comprising a plurality of said
25 intermediate portions.
9. A filter for use in a filtering section of a waste water discharge system including a generally vertical channel defining a receptacle for a filter, the channel including an inlet at a lower end of the filter receptacle and an outlet extending laterally from an upper portion of the filter receptacle, the filter element
30 comprising: an axial support of a pre-selected length, a handle fixed to the axial

support for facilitating placement and withdrawal of the filter element in the filter receptacle, and a plurality of bristles fixed to the axial support and extending radially outward to define an outer margin, the outer margin of the bristles, at some portions along the pre-selected length, being at least equal to an inside
5 dimension of said channel defining the receptacle, so that water flowing from the inlet to the outlet must pass between the bristles which filter the water, the outer margin of the bristles along at least one intermediate portion being sufficiently short to be spaced from the inside of said channel.

10 10. The filter element of claim 9 wherein the axial support comprises a spiral wound set of wires, the bristles being captured between the set of wires.

11. The filter element of claim 9 wherein the handle comprises a unitary extension of the axial support extending radially to only one side of the axial support by a distance sufficient to overlie an upper margin of the generally vertical channel.

15 12. The filter element of claim 9 comprising a plurality of said intermediate portions and wherein one of the intermediate portions is situated to be positioned at the location of said outlet.

13. The filter element of claim 9 wherein the bristles are crimped or convoluted.

20 14. The filter element of claim 9 wherein the bristles have a cross-sectional diameter of between about 0.2 and 0.004 cm.

15. The filter element of claim 9 wherein the bristles are present in an amount of between about 10^2 and 10^4 per centimeter of length of the axial support.

25 16. A replacement filter kit for use in replacing a filter element in a waste water discharge system including a first channel defining a receptacle for a filter and a second channel connected generally orthogonally to the first channel providing an outlet from the filter receptacle, the filter kit element comprising: a shield member and a filter element, the filter element having an axial support of a
30 pre-selected length, a plurality of bristles fixed to the axial support and extending

radially outward to define an outer margin, the outer margin of the bristles, at some portions along the pre-selected length, being at least equal to an inside dimension of said channel defining the receptacle, and handle means fixed to the axial support facilitating the placement and withdrawal of the filter element in the filter receptacle, the shield member comprising a sheet generally conformable to the inside surface of the filter receptacle, the shield member having a length dimension sufficient to cover the outlet leading to the second channel for blocking any flow of waste water into the second channel during replacement of the filter element.

10 17. The replacement filter kit of claim 16 wherein the handle comprises a unitary extension of the axial support extending radially to only one side of the axial support by a distance sufficient to overlie a margin of the first channel, the shield member having a width dimension selected so that the margins defining the width dimension are spaced from each other by a distance sufficient to allow the shield member to pass by the handle when inserted into the first channel.

15 18. The replacement filter kit of claim 16 wherein the sheet forming the shield member is curved to a nearly cylindrical form, two opposing edges of the sheet being separated from each other by a distance sufficient to permit said handle means to pass between the two opposing edges.

20 19. The replacement filter kit of claim 18 wherein two adjacent corners of the opposing edges are bent outward to provide an engagement tang for engaging an upper margin of the first channel.

25 20. A shield member for use during the replacement of a filter element in a waste water treatment facility, the shield member comprising a sheet generally conformable to the inside surface of a filter receptacle, the shield member having a length dimension sufficient to cover an outlet of the filter receptacle for blocking any flow of waste water out of the filter receptacle during replacement of the filter element, the shield member having a lateral dimension so that when curved to conform to the inside surface of the filter receptacle the shield assumes a nearly cylindrical form having two opposing edges of the sheet

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being separated from each other to define a slot, two adjacent corners of the opposing edges being bent outward to provide engagement tangs for engaging an upper margin of the filter receptacle.

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